EXECUTIVE SUMMARY

AIRCRAFT ACCIDENT INVESTIGATION
B-1B, LANCER, Tail Number 86-000138
AT ANDERSEN AIR FORCE BASE, GUAM ON 7 MARCH 2008

On 7 March 2008, at approximately 0203 Zulu (Z), 1203 Guam local time, a B-1B Lancer, tail number 86-000138, assigned to the 37th Bomb Squadron, 28th Bomb Wing, Ellsworth Air Force Base (AFB), South Dakota, collided with two Aircraft Rescue Fire Fighting (ARFF) vehicles after the aircraft began to roll following engine shut down. There were no reported injuries, fatalities, or damage to private property. The Mishap Aircraft (MA) left wing received considerable underwing flight surface damage to the leading edge and flaps. The MA nose radome received deep lacerations on both the left and right sides. Both ARFF vehicles sustained damage as well. Total damage to the aircraft and vehicles was $ 5,773,954.

The MA took off from Andersen AFB, Guam, on a redeployment mission to Hickam AFB, Hawaii. Approximately 24 minutes into the flight, the MA lost hydraulic system #3 and the mishap pilot (MP) declared an in-flight emergency and diverted back to Andersen AFB for landing. The MP executed an uneventful approach and landing, taxied the MA clear of the runway, and stopped on the taxiway with the parking brake set in order for the emergency response crew to visually inspect the MA. The emergency response crew observed a hydraulic leak on the right side of the MA and the MP was advised to shut down the aircraft. Within seconds after engine shutdown, the MA began to roll forward and collided with the two emergency response vehicles.

The Board President found by clear and convincing evidence that the cause of this mishap was a malfunction of the right hand brake metering valve that caused the parking brake to fail following engine shutdown. Failure of the valve caused depletion of associated brake system accumulators, rendering MA brake systems inoperative when the engines shut down. The right hand brake metering valve was the single point failure of both the parking brake system and the backup emergency brake system. Substantially contributing factors include failure of emergency responders to chock the aircraft, a taxiway decline of .8 degrees, and the inability of ARFF vehicles #9 and #11 to clear the path of the rolling B-1B. The loss of hydraulic system #3, due to the separation of a 1.25 inch diameter tubing from a high pressure hydraulic line T-fitting assembly, caused the MA to return to Andersen AFB with an in-flight emergency, and is therefore also a contributing factor to the accident.